

Obituary Notice

R. H. SMITH
(1924–1991)



Roy Smith died at home in Sonning on 5th March, 1991 after a fight against cancer. Educated at Latymer Upper School in London, he graduated with honours in Chemistry from Imperial College of London University in 1943. After serving in industry for four years he returned to Imperial College as a post-graduate student in 1947, receiving a PhD degree in 1950. He then joined the Rubber Research Institute of Malaya as a Research Officer where his main area of research was on the composition and biochemistry of rubber latex, particularly the phospholipid component, in relation to latex stability.

He joined the then National Institute for Research in Dairying in Shinfield near Reading as a Senior Scientific Officer in 1954, and was promoted to Principal Scientific Officer in 1961. He was awarded a DSc in Nutrition and Biochemistry in 1972 from the University of London and was promoted to Senior Principal Scientific Officer on the grounds of individual merit in 1979. He was appointed head of the Basic Ruminant Nutrition Department in 1980. He retired on closure of the Institute in 1985 but continued as Chairman of the Editorial Board of the *British Journal of Nutrition*.

His early work at Shinfield was the investigation of factors influencing the utilization of magnesium by the preruminant calf. This work pioneered the use of intestinal cannulas in such animals and clarified a number of then contentious issues enabling recommendations on dietary magnesium requirements that still influence present-day thinking. Studies of mineral metabolism were succeeded by investigations of the mechanisms and limitations of carbohydrate digestion and of amino acid requirements with emphasis on possible methionine or lysine deficiencies when calves were given milk-replacer diets. He investigated other problems of calf nutrition involving general questions of gut function and its disorders. These included the poor utilization of non-milk proteins and particularly intolerance in the calf to certain heated soya products (acceptable by most animals), and investigations provided evidence that a gastrointestinal allergy was a major factor in such disorders, a finding he confirmed in collaboration with immunologists. His studies of gut function and mobility in relation to different dietary inputs and to gastrointestinal disorders involved the development and application of sophisticated electromyographical techniques and means of measuring digesta flow.

Increasing numbers of assistants, students and co-workers allowed him to extend his research interests to the ruminating animal, initially studying aspects of mineral absorption and metabolism. Latterly, the main thrust of his work was directed at two

main aspects of ruminant nutrition. One was to obtain fundamental information on the processes determining amino acid supply at the tissue or product level with different dietary intakes. This involved investigations of rumen microbial protein synthesis, degradation of dietary proteins and nitrogen recycling, processes which needed to be understood and may sometimes be manipulated for the development of economic protein-feeding schemes and maximizing the use of dietary non-protein nitrogen sources. He was one of the principal architects in the formulation of the ARC Protein Evaluation System for Ruminants. His second main interest was in factors influencing carbohydrate metabolism and digestion, particularly in the rumen and elsewhere in the digestive tract, with the main practical objective of making it possible to manipulate conditions to make the best use of poor quality forage and other fibrous by-products in ruminant feeding.

His success in his research was reflected in his national and international reputation in the scientific community. He spoke frequently by invitation at important symposia world-wide. He did consultancy work for bodies such as FAO and IAEA in third world and developing countries, helping to develop research programmes with the objective of improving the efficiency of ruminant production in these countries.

Many members of the Nutrition Society will remember him for his contributions to the journals whilst others will recall his tenure as Chairman of the Editorial Board of the *British Journal of Nutrition* from 1982–1988. He was the prime mover in the establishment of *Nutrition Research Reviews*, which was an instant success and highly acclaimed due in no small part to his efforts as General Editor. He was working on the forthcoming issue at the time of his death.

Despite his world-wide reputation in the scientific field he was still a very private person. He loved music, art and literature and thoroughly enjoyed collecting old books. He took great pleasure in country walks always accompanied by his sketch pad. He leaves a wife and four children.

A. B. MCALLAN